Notice

Description DE19503993

The invention relates to the use of a product for enteral supply of food ingredients or drug substances for improvement of glucose intolerance, insulin resistance or hyperlipidemia in obesity, metabolic syndrome and diabetes mellitus and gastro-intestinal disease or skin disorders such as psoriasis, or for the prevention of such diseases.

Insulin resistance is a metabolic disorder that leads to hyperinsulinemia mellitus, obesity, glucose intolerance and non-insulin-dependent diabetes. Often occurs in addition to hypertension and dyslipidemia. Weight reduction, exercise and medication can reduce insulin resistance.

The following describes the use of fish oil and medium chain triglycerides (MCT) for dietary or ernährungsmedizinisc measures is described, with the aim of improvement of insulin resistance, glucose tolerance, dyslipidemia and hypertension, a reduction of glucose increases in the oral glucose tolerance test and after a mixed meal, and lower fasting and postprandial insulin concentrations achieved. Even thought of a prevention of these diseases.

The main prerequisites for the application of these substances is an administration in larger quantities, which implies due to the unpleasant taste and sensory masking because of the potential gastrointestinal intolerance symptoms, moreover, even for a micro-encapsulation or controlled Wirkstofffreisetzu stable dispersion.

The possible uses of this product are indicated in the claims.

According to the invention is thus used a product for enteral supply of food ingredients or medicinal ingredients, in which (also known as omega-3 fatty acid) at least one of the food ingredients or drug substances, an n-3 fatty acid or n-3 fatty acid-containing substance with a content of at least 5%, and another food ingredient or a pharmaceutical ingredient, medium-chain triglyceride (MCT) with a grade ofat least 5% Of the identified substances, a quantity of substance administered per 0,1-0,5 g / kg body weight over time, with the aim of improvement of insulin resistance, the causes from which occurs However, glucose tolerance, dyslipidemia and hypertension, a reduction increase of glucose in oral glucose tolerance test and to achieve after a mixed meal, and low fasting and postprandial insulin concentrations, to facilitate a normalization of body weightor prevent these diseases in preventive intent.

From the P 44 11 414th1, which is not yet published, a product for enteral supply of food ingredients is known to be present at the masked food ingredients, with at least one of the food ingredients a fatty acid or fatty acid-containing substance with a salary of at least 10%, the plasticized in a starch matrix is bound finely dispersed, at least a portion of the fatty acid (s) is at least partially enclosed in an amylose helix It has been shown that these products can also mask the high concentrations of food ingredients, which when taken in higher doses or for long periods incompatibility phenomena or simply cause resentment among the only people to whom the materials are to be administered can.

Therefore, is preferably used for the inventive use of imaginary product in which the fatty acid (s) in a plasticized starch matrix are fied finely dispersed, at least a portion of the fatty acid (s) is at least partially enclosed in an amylose helix.

A further improvement of acceptance, tolerance and desired Resorptionsverzögerung obtained by a coating, a cover or mask and / or encapsulation of the product.

However, it is also possible to apply the MCT oils on an absorbent carrier, without requiring any further encapsulation or additional protection be provided against oxidation.

For the proposed masking and / or encapsulation, starch products, such as maltodextrins, cyclodextrins, such as beta-cyclodextrin, native or modified starches.

It can be used for the procedure emulsions or dispersions, for example, nanoemulsions can continue to phospholipids or liposomes are used.

The procedures for carrying out the encapsulation include coacervation and phase separation processes, spray drying method, coating method in a fluidized bed or extrusion process.

The product obtained by encapsulation, shape, and listed the encapsulation necessary for the inventive use properties.

The product can be partly or wholly of starch modified by Amylosekomplexierung with fatty acids and thus is more resistant to the intestinal resorption of resistant or partially.

Be advantageous for the product, the n-3 fatty acids, MCT fats and greases modified by complexation with resistant or partially used and thus be resistant to strength together.

The product used in the fatty acid or fatty acid-containing substance should be fish oil with n-3 fatty acids or fish oil concentrate with an increased proportion of n-3 fatty acids.

Particularly advantageously, fish oil and / or highly refined n-3 fish oil and / or n-3 fish oil concentrate can be used with a total amount of n-3 fatty acids of more than 65%.

It should be used in high eicosapentaenoic acid (EPA) concentrations at a level of more than 30% and / or Dodekahexaensäure (DHA) concentrations, with a share of more than 20%, preferably as EPA or DHA fatty acid concentrate.

Also preferred is a use of fatty acids as triglycerides or Acylesther or DHA and / or EPA fatty acids.

Also, the product should contain the inventive use of medium chain fatty acids

The invention does not exclude that the n-3 fatty acids or medium chain fatty acids containing products are produced in each case independently and administered, they can also be a mixture of products manufactured and / or administered.

Various additives to the product used according to the invention are possible, such as flavorings, colorings, fat-soluble substances, such as fat-soluble vitamins, antioxidant substances, pharmacologically active substances and many more

Essential to the invention is that the ingredients present predominantly or exclusively against a possible reallocation of food or food ingredients or used as a dietary supplement or food additive to be.

Other additives may be incorporated into the product to the inventive use, so that the rules on the content of protein, fats, carbohydrates, vitamins and minerals after 14 dietary VO on dietetic products for use as a meal or in place of a meal equivalent for overweight. Also, the product can be designed so that it complies with the provisions of the dietary food diet mentioned 14-VO.

Thus, the used product may be used along with an isocaloric diet or unterkalorischen mixed diet.

Basically, it is also possible that the product used in the invention is a medicine by its composition and also for the purpose, which may be used only under medical supervision. In particular, been thinking of nutritional medical measures outside regulation of the diet under medical supervision.

When used according to the present invention are used as treatment targets a reduction in insulin requirements or a waiver of insulin dependence, normalization of blood glucose and blood fat are in insulin-dependent diabetes mellitus type II, or diabetic secondary failure, additional treatment goals are reducing and smoothing of blood glucose in secondary failure in diabetic or insulin-dependent diabetes mellitus type II orsmoothing and normalization of blood sugar in non-insulin-dependent diabetes mellitus type II or type I.

In many cases, a reduction or elimination of the use of oral hypoglycemic agents, such as are of the sulfonylurea or biguanide-type type achieved.

It is also intended as a treatment goal of a reduction in insulin resistance, the impaired glucose tolerance, the increased blood sugar rise at Kohlehydratbelastung and normalization of blood lipids with metabolic syndrome or obesity.

It is already mentioned that a reduction in insulin resistance can be treated, which is caused by other causes or conditions or arose.By the method of production using starch-makers together with fatty acids or fatty acid-containing substances in any case, the insulin response and / or blood sugar levels after Kohlehydratbelastung lowered, thereby reducing the glycemic index of the product.

Acceptance, tolerance and desired Resorptionsverzögerung be improved by an advantageous form of the product, for example, pellets with a diameter of 0.1 to 3 mm.

The product can be mixed with a liquid to a paste, a suspension, a dispersion or the like, or be administered as a beverage, such as a shake-drink as a soup or sauce.

The above in the description, the drawings and the claims disclosed features of the invention, both individually and in any combination for the realization of the invention to be substantial.